# TEST REPORT OF AGGEGRATE IMPACT VALUE

## IS: 2386 Part IV

| | | |
|---|---|---|
| **Lab ID** | : | **CP-RW-2022-04-25-28** **Date: 16-02-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 14-02-22 |
| **Type of Mix** | : | Coarse Aggregate for WMM ( Wet Mix Macadam) |
| **Date of Test** | : | 14-02-22 |

| Sl.No | Particulars of observations | Index | TEST 1 | TEST 2 |
|---|---|---|---|---|
| 1 | Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve) | A | 305.5 | 305.9 |
| 2 | Weight of fraction passing 2.36mm sieve After giving 15 blows | B | 72.5 | 71.7 |
| 3 | weight of fraction retained 2.36mm sieve After giving 15 blows | C | 232.4 | 233.7 |
| 4 | Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made. | A-(B+C) | 0.6 | 0.5 |
| 5 | Aggregate impact value | (B/A)*100 | 23.7 | 23.4 |
| 6 | Aggregate impact value ( Mean of two tests) | Pecentage | 23.6 | |

* The results obtained are satisfactory as per standard requirements.

**Note:-**

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**Authorized Signatory**
**Quality Manager**

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# DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007 )

Date: 16-02-22

| | | |
|---|---|---|
| **Lab ID** | : | CP-RW-2022-04-25-28 |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 14-02-22 |
| **Type of Mix** | : | Coarse Aggregate for WMM ( Wet Mix Macadam) |
| **Date of Test** | : | 14-02-22 |

**Result:**

| Index | Percentage of Flakiness and Elongation Index | Secified limits as per MORTH specification table 400-12 |
|---|---|---|
| Flakiness Index | 10.4% | Combined Flakiness & Elongation Index for WMM is Maximum 35% |
| Elongation Index | 12.8% | |
| Combined Flakiness and Elongation Index for WMM | 23.2% | |

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# TEST RESULTS OF GRADATION FOR BM
## (IS 2386:(Part 1) 1963 (RA2011)

**Lab ID** : **CP-RW-2022-04-25-28** **Date: 24-02-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore.

**Project Name** : Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura)

**Agency** : SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK.

**Customer Reference** : BBMP/EE/BTP/WO/189/2020-21

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 22-02-22

**Type of Mix** : BM-Plant (Bituminous Macadam)

**Date of Test** : 22-02-22

**Weight of Sample(gm)** : 5000

| IS Sieve Size(mm) | Weight Retained(gm) | Comulative Weight Retained (gm) | Comulative % of Retained | Comulative % of Passing | Specification Limits as per MORTH specification Table 500-7(grading -2) |
|---|---|---|---|---|---|
| 26.5 | 0 | 0 | 0 | 100 | 100 |
| 19 | 165 | 165 | 3.3 | 96.7 | 90-100 |
| 13.2 | 512 | 677 | 13.5 | 86.5 | 56-88 |
| 4.75 | 2759 | 3436 | 68.7 | 31.3 | 16-36 |
| 2.36 | 911 | 4347 | 86.9 | 13.1 | 4-19 |
| 0.3 | 358 | 4705 | 94.1 | 5.9 | 2-10 |
| 0.075 | 232 | 4937 | 98.7 | 1.3 | 0-8 |
| PAN | 63 | 5000 | 100.0 | 0.0 | 0 |

* The results obtained are satisfactory as per standard requirements.

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# PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS MACADAM

**Lab ID** : **CP-RW-2022-04-25-28** **Date: 25-02-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore.

**Project Name** : Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura)

**Agency** : SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK.

**Customer Reference** : BBMP/EE/BTP/WO/189/2020-21

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 22-02-22

**Type of Mix** : BM (Bituminous Macadam)

**Date of Test** : 22-02-22

**Table 500-6 : Physical Requirements fo Coarse Aggregate for Bituminous Macadam**

| Property | Test | Result | Specification | Method of Test |
|---|---|---|---|---|
| Partical Shape | Flakiness Index | 13.8 | Combined Flakiness & Elongation Index for BM is Maximum 35% | IS:2386 Part I |
| | Elongation Index | 7.2 | | |
| Strength | Aggregate Impact Value | 25.2 | Maximum 30% | IS:2386 Part IV |
| Specific gravity | Specific gravity | 2.51 | Maximum 2.7 | IS:2386 Part III |
| Water Absorption | Water Absorption | 0.17 | Maximum 2% | IS:2386 Part III |

* The results obtained are satisfactory as per standard requirements.

**Note:-**
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Certificate No.: TC-5548

# TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

**Lab ID** : **CP-RW-2022-04-25-28** **Date: 25-02-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore.

**Project Name** : Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura)

**Agency** : SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK.

**Customer Reference** : BBMP/EE/BTP/WO/189/2020-21

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 22-02-22

**Type of Mix** : BM(Bitumnous Macadam)

**Date of Test** : 22-02-22

**Type of Binder** : 60/70

**% of Binder Used** : 5.0%

**Weight of Aggregate** : 200.0 gm

**Weight of Binder** : 10.0 gm

**Temperature of water bath** : 40°C

| No of test | Retained Stripping Percentage | Stripping Percentage | Average Retained Stripping Percentage | Secified limits as per MORTH specification table 500-8 |
|---|---|---|---|---|
| 1 | 98.0 | 2.0 | 98.2 | Minimum Retained Coating 95% |
| 2 | 98.5 | 1.5 | | |
| 3 | 98.0 | 2.0 | | |

* The results obtained are satisfactory as per standard requirements.

**Note:-**
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# TESTS RESULTS ON STABILITY OF MIX

**Lab ID** : **CP-RW-2022-04-25-28** **Date: 25-02-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore.

**Project Name** : Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura)

**Agency** : SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK.

**Customer Reference** : BBMP/EE/BTP/WO/189/2020-21

**Source of Sample** : Hot Mix Plant, Bangalore

**Sample Condition** : Satisfactory

**Date of Receipt** : 22-02-22

**Type of Mix** : BM (Bituminous Mecadam)

**Date of Test** : 22-02-22

**The results of the tests conducted on the Bituminous Macadam mix sample are as follow**

| Sl.No | Particulars of observations | TEST 1 | TEST 2 | Secified limits as per MORTH specification table 500-11 |
|---|---|---|---|---|
| 1 | Marshal Stability at 60°C, KN | 11.29 | 11.82 | 9KN(Min) |
| 2 | Marshal flow at 60°C, mm | 3.54 | 3.87 | 2-4 |
| 3 | Percent air Voids | 4.56 | 4.17 | 3-5 |
| 4 | Percent Voids in mineral Aggregate(VMA %) | 14.54 | 14.76 | 13-15 |
| 5 | Percent Voids filled with Bitumen(VFB %) | 68.98 | 70.28 | 65-75 |
| 6 | Density, g/cc | 2.42 | 2.40 | – |

* The results obtained are satisfactory as per standard requirements.

**Note:-**

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# TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BM (IS 2386:(Part 1) 1963 (RA2011)

| | | |
|---|---|---|
| **Lab ID** | : | **CP-RW-2018-** **Date: 02-03-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Date of Receipt** | : | 01-03-22 |
| **Type of Mix** | : | BM (Bituminous Macadam) |
| **Date of Test** | : | 01-03-22 |

| Sl.no | Description | Index | Trail 1 | Trail 2 |
|---|---|---|---|---|
| 1 | Weight of the Sample | A | 500 | 500 |
| 2 | Weight of the sample After extraction | B | 482 | 483 |
| 3 | Bitumen percentage | $\frac{A-B}{A} \times 100$ | 3.60 | 3.40 |
| 4 | Average percentage | % | 3.50 | |

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Lab ID : CP-RW-2018- Date: 02-03-22

**AFTER EXTRACTION(Trail-1)**

Weight of Sample : 482 Grams

| IS Sieve Size(mm) | Weight Retained (gm) | Comulative Weight Retained (gm) | Comulative % of Retained | Comulative % of Passing | Specification Limits as per MORTH specification Table 500-7(grading -2) |
|---|---|---|---|---|---|
| 26.5 | 0 | 0 | 0.0 | 100.0 | 100 |
| 19 | 38 | 38 | 7.9 | 92.1 | 90-100 |
| 13.2 | 147 | 185 | 38.4 | 61.6 | 56-88 |
| 4.75 | 191 | 376 | 78.0 | 22.0 | 16-36 |
| 2.36 | 28 | 404 | 83.8 | 16.2 | 4-19 |
| 0.3 | 32 | 436 | 90.5 | 9.5 | 2-10 |
| 0.075 | 31 | 467 | 96.9 | 3.1 | 0-8 |

**AFTER EXTRACTION(Trail-2)**

Weight of Sample : 483 Grams

| IS Sieve Size(mm) | Weight Retained (gm) | Comulative Weight Retained (gm) | Comulative % of Retained | Comulative % of Passing | Specification Limits as per MORTH specification Table 500-7(grading -2) |
|---|---|---|---|---|---|
| 26.5 | 0 | 0 | 0.0 | 100.0 | 100 |
| 19 | 38 | 38 | 7.9 | 92.1 | 90-100 |
| 13.2 | 147 | 185 | 38.3 | 61.7 | 56-88 |
| 4.75 | 191 | 376 | 77.8 | 22.2 | 16-36 |
| 2.36 | 28 | 404 | 83.6 | 16.4 | 4-19 |
| 0.3 | 35 | 439 | 90.9 | 9.1 | 2-10 |
| 0.075 | 30 | 469 | 97.1 | 2.9 | 0-8 |

* The results obtained are satisfactory as per standard requirements.

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## TEST RESULTS OF GRADATION FOR BC
## IS 2386 (Part 1) 1963 (RA 2007 )

**Date: 28-02-22**

| | | |
|---|---|---|
| **Lab ID** | : | **CP-RW-2022-04-25-28** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 25-02-22 |
| **Type of Mix** | : | BC-Plant (Bituminous Concrete) |
| **Date of Test** | : | 25-02-22 |
| **Oven Dry Weight** | : | 5000 Grams |

| IS Sieve Size (mm) | Weight Retained (gm) | Comulative Weight Retained (gm) | Comulative % of Retained | Comulative % of Passing | Secified limits as per MORTH specification table 500-17(grading-2) |
|---|---|---|---|---|---|
| 19 | 0 | 0 | 0.0 | 100.0 | 100 |
| 13.2 | 72 | 72 | 1.4 | 98.6 | 90-100 |
| 9.5 | 801 | 873 | 17.5 | 82.5 | 70-88 |
| 4.75 | 855 | 1728 | 34.6 | 65.4 | 53-71 |
| 2.36 | 578 | 2306 | 46.1 | 53.9 | 42-58 |
| 1.18 | 502 | 2808 | 56.2 | 43.8 | 34-48 |
| 0.6 | 499 | 3307 | 66.1 | 33.9 | 26-38 |
| 0.3 | 535 | 3842 | 76.8 | 23.2 | 18-28 |
| 0.15 | 472 | 4314 | 86.3 | 13.7 | 12-20 |
| 0.075 | 385 | 4699 | 94.0 | 6.0 | 4-10 |
| PAN | 301 | 5000 | 100 | 0.0 | 0 |

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Certificate No.: TC-5548

# TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

| | | |
|---|---|---|
| **Lab ID** | : | **CP-RW-2022-04-25-28** **Date: 28-02-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 25-02-22 |
| **Type of Mix** | : | BC(Bitumenous Concrete) |
| **Date of Test** | : | 25-02-22 |

| | | |
|---|---|---|
| **Type of Binder** | : | 60/70 |
| **% of Binder Used** | : | 5.0% |
| **Weight of Aggregate** | : | 200.0 gm |
| **Weight of Binder** | : | 10.0 gm |
| **Temperature of water bath** | : | 40°C |

| No of test | Retained Stripping Percentage | Stripping Percentage | Average Retained Stripping Percentage | Secified limits as per MORTH specification table 500-8 |
|---|---|---|---|---|
| 1 | 98.0 | 2.0 | 98.5 | Minimum Retained Coating 95% |
| 2 | 99.0 | 1.0 | | |
| 3 | 98.5 | 1.5 | | |

* The results obtained are satisfactory as per standard requirements.

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# PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

**Date: 28-02-22**

| | | |
|---|---|---|
| **Lab ID** | : | **CP-RW-2022-04-25-28** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 25-02-22 |
| **Type of Mix** | : | BC (Bituminous Concrete) |
| **Date of Test** | : | 25-02-22 |

**Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete**

| Property | Test | Result | Specification | Method of Test |
|---|---|---|---|---|
| Partical Shape | Flakiness Index | 12.1 | Combined Flakiness & Elongation Index for BC is Maximum 35% | IS:2386 Part I |
| | Elongation Index | 10.3 | | |
| Strength | Aggregate Impact Value | 20.7 | Maximum 24% | IS:2386 Part IV |
| Specific gravity | Specific gravity | 2.64 | Maximum 2.7 | IS:2386 Part III |
| Water Absorption | Water Absorption | 0.18 | Maximum 2% | IS:2386 Part III |

* The results obtained are satisfactory as per standard requirements.

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# TESTS RESULTS ON STABILITY OF MIX

**Lab ID** : **CP-RW-2022-04-25-28** **Date: 28-02-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore.

**Project Name** : Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura)

**Agency** : SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK.

**Customer Reference** : BBMP/EE/BTP/WO/189/2020-21

**Source of Sample** : Hot Mix Plant, Bangalore

**Sample Condition** : Satisfactory

**Date of Receipt** : 25-02-22

**Type of Mix** : BC (Bituminous Concrete)

**Date of Test** : 25-02-22

**The results of the tests conducted on the Bituminous Concrete mix sample are as follow**

| Sl.No | Particulars of observations | TEST 1 | TEST 2 | Secified limits as per MORTH specification table 500-11 |
|---|---|---|---|---|
| 1 | Marshal Stability at 60°C, KN | 11.28 | 11.54 | 10KN(min) |
| 2 | Marshal flow at 60°C, mm | 3.53 | 3.52 | 2-4 |
| 3 | Percent air Voids | 4.83 | 4.81 | 3-5 |
| 4 | Percent Voids in mineral Aggregate(VMA %) | 14.32 | 14.14 | 13-15 |
| 5 | Percent Voids filled with Bitumen(VFB %) | 72.46 | 72.49 | 65-75 |
| 6 | Density, g/cc | 2.26 | 2.27 | – |

* The results obtained are satisfactory as per standard requirements.

**Note:-**

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FOR CIVIL Pro.

**R KARTHIK RECHAN**
**Authorized Signatory**
**Quality Manager**

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

# TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
## IS 2386 (Part 1) 1963 (RA 2011 )

**Lab ID** : **CP-RW-2022-04-25-28** **Date: 04-03-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore.

**Project Name** : Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura)

**Agency** : SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK.

**Customer Reference** : BBMP/EE/BTP/WO/189/2020-21

**Source of Sample** : Sample supplied by Agency

**Date of Receipt** : 03-03-22

**Type of Mix** : BC (Bituminous Concrete)

**Date of Test** : 03-03-22

| Sl.no | Description | Index | Trail 1 | Trail 2 |
|---|---|---|---|---|
| 1 | Weight of the Sample | A | 500 | 500 |
| 2 | Weight of the sample After extraction | B | 468 | 469 |
| 3 | Bitumen percentage | $\frac{A-B}{A} \times 100$ | 6.40 | 6.20 |
| 4 | Average percentage | % | 6.3 | |

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Lab ID : CP-RW-2022-04-25-28 Date: 04-03-22

## AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 468

| IS Sieve Size (mm) | Weight Retained (gm) | Comulative Weight Retained (gm) | Comulative % of Retained | Comulative % of Passing | Secified limits as per MORTH specification table 500-23(grading-2) |
|---|---|---|---|---|---|
| 19 | 0 | 0 | 0.0 | 100.0 | 100 |
| 13.2 | 4 | 4 | 0.9 | 99.1 | 90-100 |
| 9.5 | 62 | 66 | 14.1 | 85.9 | 70-88 |
| 4.75 | 112 | 178 | 38.0 | 62.0 | 53-71 |
| 2.36 | 88 | 266 | 56.8 | 43.2 | 42-58 |
| 1.18 | 29 | 295 | 63.0 | 37.0 | 34-48 |
| 0.6 | 11 | 306 | 65.4 | 34.6 | 26-38 |
| 0.3 | 46 | 352 | 75.2 | 24.8 | 18-28 |
| 0.15 | 45 | 397 | 84.8 | 15.2 | 12-20 |
| 0.075 | 55 | 452 | 96.6 | 3.4 | 4-10 |

## AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 469

| IS Sieve Size (mm) | Weight Retained (gm) | Comulative Weight Retained (gm) | Comulative % of Retained | Comulative % of Passing | Secified limits as per MORTH specification table 500-23(grading-2) |
|---|---|---|---|---|---|
| 19 | 0 | 0 | 0.0 | 100.0 | 100 |
| 13.2 | 7 | 7 | 1.5 | 98.5 | 90-100 |
| 9.5 | 60 | 67 | 14.3 | 85.7 | 70-88 |
| 4.75 | 115 | 182 | 38.8 | 61.2 | 53-71 |
| 2.36 | 85 | 267 | 56.9 | 43.1 | 42-58 |
| 1.18 | 25 | 292 | 62.3 | 37.7 | 34-48 |
| 0.6 | 15 | 307 | 65.5 | 34.5 | 26-38 |
| 0.3 | 51 | 358 | 76.3 | 23.7 | 18-28 |
| 0.15 | 48 | 406 | 86.6 | 13.4 | 12-20 |
| 0.075 | 42 | 448 | 95.5 | 4.5 | 4-10 |

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Format No: CP/TF/01

# TEST REPORT ON BITUMEN

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-04-25-28** **Date: 19-02-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 17-02-22 |
| **Sample Type** | : | Bitumen |
| **Reference to BIS codes** | : | IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019) |
| **Date of Test** | : | 17-02-22 |

## Test Results

| Sl.no | Name of Test | Result | Requirements as per IS:73-2013 |
|---|---|---|---|
| 1 | Penetration at 25°C , in 1/10th mm | **62** | 60 to 70 |
| 2 | Softening Point, °C | **52** | Min. 40°C |
| 3 | Ductility, cm | **97** | Min. 75cm |
| 4 | Flash point, °C | **248** | Min. 220°C |
| | Fire point, °C | **272** | |

* The results obtained are satisfactory as per standard requirements.

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****End of Report****

## DETERMINATION OF RATE OF SPREAD TACK COAT

| | | |
|---|---|---|
| **Lab ID** | : | **CP-RW-2022-04-25-28** **Date: 04-03-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Repairs to Culverts, Drains and Desilting of Drains, Missing Covering Slabs at Virupakshapura, Kodigehalli in Ward No.09 (Vidyaranyapura) |
| **Agency** | : | SRI. BHARATH.R, BEECHAGONDAHALLY, S.K. HALLY POST, KOLAR, TALUK. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/189/2020-21 |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 03-03-22 |
| **Type of Mix** | : | Tack coat |
| **Date of Test** | : | 03-03-22 |

| Sl.No | Determination | Unit | TEST 1 | TEST 2 |
|---|---|---|---|---|
| 1 | Size of Plate (mxm) | Mt | 0.30 x .30 | 0.30 x .30 |
| 2 | Area of Plate (a) | Sq.mtr | 0.09 | 0.09 |
| 3 | Initial Wt of empty Plate (b) | Kg | 0.78 | 0.748 |
| 4 | Final weight of plate after application of tack Coat ( c) | Kg | 0.804 | 0.773 |
| 5 | Weight of tack Coat (d=c-b) | Kg | 0.024 | 0.025 |
| 6 | Rate of spread of tack coat | Kg/sq.m | 0.267 | 0.278 |
| 7 | Average | Kg/sq.m | 0.272 | |
| 8 | Specified Limit | Kg/sq.m | 0.250 Kg/sq.m | |

* The results obtained are satisfactory as per standard requirements.

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*End of Report*

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